

## Dialogue, Debate, and Discussion

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### Societal Resilience: China and Japan

**Gordon Redding** 

*University of Hong Kong, Hong Kong*

To understand how societal progress occurs means acknowledging its extreme complexity. As the great natural scientist Ernest Rutherford remarked ‘Science is either physics or stamp collecting’. In social science, complex matters also demand the understanding of deep, and perhaps concealed, causes. This commentary introduces some such new fundamental thinking and uses the contrasting patterns of progress in Japan and China to explore an explanation.

#### HOW SOCIETIES EVOLVE

Four features are common in accounts of the world’s many surges of societal growth: (1) the behaviour of the key actors is competitive, and consequently driven by a permanent search for improved productivity per unit of input, the rules for success in this context being usually set by market response; (2) there have been mechanisms and structures for the flow of information throughout each society to permit and encourage the creation, debate about, and spread of new knowledge and its use; (3) the societal structures and processes have themselves adjusted during the process so as to balance the competing interests involved; and (4) the spreading of empowerment down into the society, and then its use, leads to what becomes perceived by most citizens as a more legitimate – and energizing – form of domination than earlier forms.

The meaning of resilience is elasticity, for a society its willingness to learn and perhaps change. The ways in which knowledge (which is not the same as information) is acquired, made available, and put to use then become defining aspects of long-term effective or ineffective societal responses. The most significant thing to be accepted is that all societies tend to run into an unseen barrier to growth, known to economic historians as Cardwell’s Law and more recently as the Middle-Income Trap. Adapting to deal with that will test what one of the major theorists of progress called a society’s ‘transformative capacity’, the quality most crucial to its viability.

A society's resilience is also tested when it must respond and bounce back from a catastrophic event such as the coronavirus pandemic. As always in any complex human system threatened by disintegration, centralized control becomes a priority. With coronavirus, the states that ignored consensus-seeking and moved fast got it 'right', (by the use of immense reserves of available labour from military, police, and neighbourhood committees). States less endowed with administrative slack, and more constrained by public opinion, moved more slowly and got it 'wrong'. But what they got relatively wrong was fixing the specific episode while it was threatening to overwhelm them. The much larger questions of explaining why the problem occurred in the first place, why it was a surprise, preventing future episodes, and accounting to those affected, call for a quite different response than that of disciplined conformity; because conformity stifles initiative and critique and at the extreme it may conceal information. Fixing a disease is one thing. Adapting a society is a problem of a different order of magnitude. Allowing that larger endeavor to be simply dictated carries very high risk.

The modern condition is based on the use of widespread, informed, and independent thinking applied for societal good under rising complexity. Herein lies perhaps the key question below the surface of many global comparisons: how many people have a voice and their own mind? As Immanuel Kant described the issue: *immaturity* is the inability to use one's own understanding without the guidance of another. In simple terms how extensive and informed is the society's brain?

Or is there a hierarchy-based formula for societal progress that gets it through the trap?

## ACKNOWLEDGING THE COMPLEXITY EFFECT

Leading research (West, 2017) demonstrates that the growth of complex systems such as societies has a 'fractal dimension' which is represented, using Kleiber's Law, as the power to which 3 must be raised to produce 4 in the powers of 10. This is represented as  $\log_4/\log_3$ , roughly 1.26, or a gain of 15 percent in available energy. By revealing economies of scale this then permits non-linear explanations of growth. So for example an elephant is roughly 10,000 times (four orders of magnitude) heavier than a rat and has 10,000 times more cells. But the amount of energy to keep an elephant alive is only 1000 times (three orders of magnitude) greater. Societies are fractal in that they consist of endless combinations of the same element – a family in its household. So the power laws that apply to biological complexity also accurately reflect the growth in scale of cities and societies. But that is only half of the story.

A second feature of the theory is especially relevant to societal progress. When societal growth is analysed more closely two different processes are found to be at work. One releases *economies of scale* based on system size. The other releases *returns to scale* based on social processes between the units. In the first *sublinear* condition

associated with an infrastructural network (e.g., a city's transport, water, gas, roads, etc.) the sizes and flows of energy grow systematically *larger* from terminal units up through the network to an eventual central source, just as in the body's cardiovascular system converging at the heart. For a society, this brings economies of scale, but it also brings the danger of wasted energy (known as entropy) as for instance when societal growth can encourage corruption. By contrast, in the second *super-linear* process the strengths and utilities of social interaction, and the flows of information exchange, are greatest between the terminal units (eventually individuals) and these interflows systematically *decrease* up the hierarchy of group structures. The differently structured downward and upward influences complement each other.

*It is these additional social interactions and exchanges all over the base layer between its units that bring the new creativity, adaptiveness and cooperativeness that release the superlinear growth in energy as a return to scale.* In doing so the accumulation of entropy in the sublinear process is counteracted by providing positive use of the otherwise lost energy; as when curiosity, debate, learning, and critical thinking are used in 'communicative action' (Habermas, 1984) to foster valuable adaptation by the system's parts and eventually its whole.

Here is the crux of the political managing of scale in any society. Size is not enough. If full advantage is to be gained from total system growth, the interaction of members must be coordinated to produce fruitful exchange across the base. This means that people must have the freedoms and incentives to create and maintain such interaction in the interests of societal good. The rise in prosperity that accompanies such societal empowerment is attested to at the macro level in long and detailed global comparative studies of societal progress. These show that when a society stimulates the likelihood of greater spontaneous social interaction and initiative across the base, then it achieves greater prosperity, as globally in GDP per capita (correlation 0.78) or in technological advancement (0.67) (Welzel, 2013). This effect was visible in China's 1980–2010 surge after Deng Xiaoping released the energy of private sector entrepreneurship by making prosperity an ideal. This same surge also included the absorbing of rising complexity by those driving it, much of that through new global relations.

To consider a society's resilience it is then necessary to take account of both its macro policy at the state level, i.e., the society's *structure*, and its day-to-day workings at the ground level, i.e., its *processes*. They are both potential sources of new dynamism but need to be working in tandem to release the society's full potential.

## JAPAN

Japan is unusual in having gone through several substantial transformations to its 'structure' but at the same time always retaining certain key features of its 'process' tradition. Its major historical adjustments were (1) the centralizing of control in 1601 by Tokugawa and the imposition of a Confucian form of administrative

order, (2) the adjustment of that order led by the philosophical arguments of Ogyu Sorai in the late 1600s that brought greater local autonomy and the adding of more Buddhism-inspired spiritualism to the ideology, (3) the Meiji Restoration of 1868 that responded to perceived threats from Western powers, then by conscious learning from them and subsequent Japanese-style implementation, and (4) post-WW2 learning about democracy, labour relations, and production engineering, all again applied in Japanese ways to produce a period of global industrial leadership and active politics.

In these various adjustments Japan would create new social spaces, new social relations, new cultural activities, revisions of consciousness, but always reinforcing its basic conceptions of social order and the premises underlying its main institutions, the significance of which remained stable. Those institutions have remained (a) the Emperor as symbol of the nation but not with an executive role, (b) a professional administrative elite chosen for knowledge, (c) far-reaching education, (d) a form of social cohesion built around the perceived ‘frames’ (Nakane, 1971) of the *ie*, or work-based community, and the *buraku*, or living community, within a uniquely Japanese form of social bonding (Koschmann, 1978), (e) the use of consensus-building at all levels of decision-making from the factory floor to democratic politics, and (f) a subtle but elaborate structure of ritual hierarchy that stabilizes much behaviour but which has adapted in recent decades to foster active political debate. A recurring theme for Japan is the achievement – continually adjusted through its history – of a legitimated form of domination, this in turn being connected in complex ways with the release of creative energy.

Japan’s distinct social psychology is summarized by Eisenstadt (1996: 293) as follows: ‘there runs through the development of Japanese economics a strong tendency to emphasize the contribution to the well-being or goals of the collectivity as against purely individualistic-utilitarian considerations’. He notes that Japan is seen in several accounts as the only case of an *ie* society. This notion contains very important comparative indications and contains the following features, in a set referred to as *iemoto*.

- \* a notion of ‘kin-tractship’ as with familial trust expressed inside bureaucracy
- \* strong collective work goals
- \* a ‘functional hierarchy’
- \* a very high degree of autonomy of the organizational units.

An outcome is that power becomes diffused because it is shared within the collectively-inspired will of the *ie*. Compared to the Western form of authority this works less with abstract rules, and more with dense and visible networks carrying the processes of social control.

The features of distributed autonomy, and active learning about deep change, represent the great gulf between China and Japan. In simple terms, where China built its civilization around the family under an emperor, Japan built its own around the community under an administration with (but not under) an

emperor, and the West around the civic-conscious individual. Reflecting these different focusses of identity is a measure of civiness (Welzel, Alexander, & Klasen, 2017): on a scale of 100 China scores 5, Japan 40, and the UK 95. The axioms that shape social coordination are not the same, nor are the behavioural responses that enact them.

## CHINA

Throughout most of its history China has seen itself as a state led by a single emperor figure; managed by an administrative elite traditionally chosen for wisdom; and reliant on familism as the essential glue holding the society's fabric together. As seen in the study of authority by Pye (1985: vii) the hierarchy is supported by 'deep psychological cravings for the security of dependency'. Trust across the society has been constructed on personalistic networks of a utilitarian form, these being a response to the limited trust available in a society where power has always been highly centralized. Its social fabric has not included strong civic consciousness, but has relied instead upon powerful identity with the national civilizational ideal. This ideal has been resistant to amendment except in a form that leaves its power structure basically unchanged in how it functions.

The contrast with Japan is discussed by Pye, who sees Japan's stress on sacrifice of self for the interests of the collectivity being in clear contrast to the Chinese response. In this latter, the collectivity is lost between loyalty to family and loyalty to emperor (or equivalent). As in earlier periods of history, with merchant interests unexpressed, China's power elite risks being out of sympathy with the groupings responsible for the 'communicative action' that will determine the society's access to superlinear growth. Entrepreneurial spontaneity needs legitimacy.

### Recent Research-Based Studies of China

An extensive recent literature on China's progress (reviewed by Redding, 2020) contains consistent themes that can be summarized as follows:

- (a) A major tension (political, social, and conceptual) exists between (i) the logics and the ideology of decentralized market rationality as an answer to rising complexity, and (ii) the use of hierarchy to retain control and order.
- (b) The trajectory of progress is now in a trapped transition and will in the near future meet a major barrier (defined in terms of the challenge of raising total factor productivity a key aspect of which is debt).
- (c) The authority system relies on a form of legitimacy based on national consciousness combined with Marxism. Not publicly influenced by institutions of constraint or consensus it is capable of rational violence. Under the widely controlled conformity the discretion of China's intellectuals is restricted. This reduces the range and quality of influences on adaptiveness.

- (d) Earlier advantages in low-cost labour, access to land, to savings-based capital, to FDI, to foreign markets, to foreign technology, are running out. The economy requires new responses as this previously available slack is used up.
- (e) Circumscribed relations of trust create a distinct form of social ethics that does not match most global norms in business relations. Except in some industries the same personalism restricts organizational scale and longevity at world standards of efficiency.
- (f) The same particularistic ethics severely inhibit the emergence of civic (as opposed to national) consciousness. Due to their side-effects, as e.g., in corruption, attempts to improve civiness by surveillance and control are still work-in-progress rather than durable achievement. The particularism inhibits a middle class from coordinating institutional innovation to supplement that derived from state control. This has until recently tolerated extraction.
- (g) The rule of law, and of regulatory institutions, is politicized and therefore, seen by many as partial and disempowering.
- (h) The political economy is made complex by interest-group rivalries and the risk of amoral opportunism.
- (i) The state sector of the economy performs poorly in terms of productivity compared to the private sector and in effect the economy is mortgaged to the support of the SOEs.
- (j) In many sectors there remains high dependence on foreign-sourced technology despite China's heavy investment in scientific education. High technocratic capacity is not matched by the intellectual or practical autonomy needed for its full use. Foreign resistance to technology transfers is growing.
- (k) Forecasts of trajectories tend to be highly conditional and open-ended. Suggested options for future progress include: a bottom-up integration of the state controlled market into the global business arena; finding a 'sweet-spot' between tight control and Silicon Valley-type creativity; the mix of a neo-liberal regulatory state and an East Asian developmental state; releasing again the entrepreneurial creativity of an encouraged middle class.

## COMPARING JAPAN AND CHINA

Three questions will serve to focus this comparison. How does the society's instinctive form of *cooperativeness* match the needs of a competitive modern economy? How is the society's knowledge and *creativity* used in the pursuit of progress? How are the various interests in the society expressed and *empowered* and a balance of them achieved?

### Cooperativeness

Japan's social psychology was developed over centuries of communal identity. This is carried forward and the membership of the Japanese *ie* can be very large and can

include many people not known personally. So too does Japanese public administration generally reach very high levels of reliability and openness, responsible as it is to a highly aware public. The intermediary institutions linking government and business, such as METI, are counterbalanced by the powerful industrial networks of the business groupings. As van Wolferen (1990) saw 'the enigma of Japanese power', its striking communalism goes back centuries and results in a unique blend of non-dictatorial collectivism and national motivation. Crucial in this has been the role of emperor as revered symbol but not as executive.

In China the focus of identity is not communal but familial, with the state always present in the background. The space between contains the networks of reciprocal obligation that are always personal. Instead of communal trust, there is instead a psychology seen by Shambaugh (2013) as one of power-maximizing and zero-sum contest in an unpredictable and predatory situation. The reliance on personal networking needed for horizontal coordination sets limits to rationally-based organizational efficiency and effectiveness. China's form of cooperativeness works well in entrepreneurial enterprise and can retain dynamism by the grafting on of rational bureaucracy. But as Li (2009) demonstrates from extensive studies of organizational growth, relation-based enterprises run into governance cost inefficiencies, whereas rule-based gain efficiency.

### **Knowledge-Based Creativity**

China's performance on innovation is much weaker than that of Japan. Taylor's (2016: 52) composite index of 'innovative nations' (rating them out of 68) scored China 29, with Japan 58, and the US 68. China had 1 China-research-based Nobel Prize winner in science compared to 264 in the US, 56 in the UK, and 14 in Japan. In ppp, US\$ China's R&D spending in 2018 was 553b or 2.19% of GDP, compared to Japan's 165b (3.15%) and for the US 511b (2.74%). A study of patent quality (Santacreu & Zhu, 2018) revealed that between 2000 and 2016 the average proportion of patents granted among total applications was 23 percent in China, and 51 percent in Japan. The proportion of patents granted abroad was for China 4 percent of 1.2 million filed (i.e. 48,000) whereas for the US it was 48 percent of the 522,000 filed (i.e., 251,000). McKinsey report that 'A massive government push to raise R&D spending, train more scientists, and file more patents, has yet to give China a lead in science-based innovation....Despite the large number of students trained in scientific and technical fields, companies struggle to find capable talent' (Roth, Seong, & Woetzel, 2015).

Although some of this difference might well be due to late arrival in the field of global science, other factors would include the politicizing of academic freedom and critical thinking, and the use of incentives that encourage research volume as opposed to quality (stamp collecting rather than physics). A review by Huang (2019) concluded that such control 'hinders the creation of an innovative scientific and technological ecosystem'.



## The Balancing of Interests

The essential dilemma faced by China is the tension between (a) the centre's long-sanctified instinct to – and responsibility for – control, now at an intense level; and (b) the law of superlinear growth that relies on dispersed and delegated initiative. This has been long resolved in Japan, using its advantages of divided central authority, powerful communal sense, widely and deeply dispersed authority, and its unique way of absorbing change without losing itself. That uniqueness has included a longstanding ideology of 'soft rule and expressive protest' (Koschmann, 1978) and by traditions that are themselves flexible (Hasegawa, 1982; Ishida, 1974; van Wolferen, 1990).

Looking globally, a different experience of societal betterment elsewhere contrasts with Chinese authoritarianism. The global trend has been clearly towards morally shaped processes of productive exchange between relatively free actors, and the consequent release of economic and other dynamisms. Chinese culture when lived out in open societies is also capable of applying its own version of these principles, albeit in societies of limited scale, as among the regional ethnic Chinese. Therein lies a possible lesson, as long as the implications of scale are taken into account.

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**Gordon Redding** (gordon.redding@gmail.com) is a Fellow of The HEAD Foundation Singapore, and Professor Emeritus, University of Hong Kong. He was previously Director of the INSEAD Euro-Asia Centre. He has received the IACMR Biennial Award for Distinguished Scholarship.